

## **IN THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

### Listing of Claims

1. (Currently Amended) A data multiplexer for performing time division multiplexing of a ~~bit stream~~ plurality of bit streams, said data multiplexer comprising:

an extracting means for extracting information necessary for multiplexing processing from ~~said bit stream~~ each of said plurality of bit streams;

a first calculating means for calculating a time division multiplexing cycle for ~~each of said plurality of bit streams~~, such that a separator ~~may separate~~ separates multiplexed data by a specified method on the basis of said information extracted by said extracting means; and

a multiplexing means for performing time division multiplexing of said ~~bit stream~~ plurality of bit streams on the basis of a result calculated by said first calculating means,

wherein different multiplexing cycle equations are used to calculate multiplexing cycles of each of said plurality of bit streams.

2. (Currently Amended) ~~A~~ The data multiplexer as claimed in claim 1, further including comprising:

a second calculating means for calculating a data occupancy rate of a virtual data buffer of said separator,

wherein said multiplexing means determines an order in which said ~~bit stream is~~  
~~plurality of bit streams are~~ multiplexed on the basis of the data occupancy rate of said  
virtual data buffer calculated by said second calculating means.

3. (Currently Amended) A data multiplexing method for a data multiplexer  
performing time division multiplexing of a ~~bit stream plurality of bit streams, said~~  
method comprising the steps of:

~~an extracting step for~~ extracting information necessary for multiplexing  
processing from ~~said bit stream each of said plurality of bit streams;~~

~~a calculating step for~~ calculating a time division multiplexing cycle ~~for each of~~  
~~said plurality of bit streams,~~ such that a separator ~~may separate separates~~ multiplexed data  
by a specified method on the basis of said information extracted by processing at said  
extracting step; and

~~a multiplexing step for~~ performing time division multiplexing of said ~~bit stream~~  
~~plurality of bit streams~~ on the basis of a result calculated by processing at said calculating  
step,

~~wherein different multiplexing cycle equations are used to calculate multiplexing~~  
~~cycles of each of said plurality of bit streams.~~

4. (Currently Amended) A program for a data multiplexer performing time  
division multiplexing of a bit stream, which is recorded on a recording medium readable  
by a computer, ~~said program~~ comprising the steps of:

~~an extracting step for~~ extracting information necessary for multiplexing

processing from ~~said bit stream~~ each of said plurality of bit streams;

~~a calculating step~~ for calculating a time division multiplexing cycle for each of said plurality of bit streams, such that a separator ~~may separate~~ separates multiplexed data by a specified method on the basis of said information extracted by processing at said extracting step; and

~~a multiplexing step~~ for performing time division multiplexing of said ~~bit stream plurality of bit streams~~ on the basis of a result calculated by processing at said calculating step,

wherein different multiplexing cycle equations are used to calculate multiplexing cycles of each of said plurality of bit streams.

5. (New) The data multiplexer as claimed in claim 1, wherein  
a bit stream is a video stream.

6. (New) The data multiplexer as claimed in claim 1, wherein  
a bit stream is an audio stream.

7. (New) The data multiplexer as claimed in claim 1, wherein  
a bit stream is a system data stream.

8. (New) The data multiplexer as claimed in claim 1, wherein  
said specified method is a leak method that is used to transfer said plurality of bit streams between buffers.

9. (New) The data multiplexer as claimed in claim 1, wherein  
said specified method is a vbv-delay method that is used to transfer said plurality  
of bit streams between buffers.

10. (New) The data multiplexer as claimed in claim 1, further comprising:  
an access unit information detector for extracting access unit information; and  
a multiplexing scheduler means for generating schedule information by using said  
access unit information.

11. (New) The data multiplexing method as claimed in claim 3, further  
comprising the steps of:  
extracting access unit information from an access unit information detector; and  
generating schedule information from a multiplexing scheduler means by using  
said access unit information.